# Assignment 1: Design Rationale

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| Design Principal | Plan | What we learnt |
| The Force | Only available to unique characters (SWLegends). ‘int’ value from 0-11. Increments when Ben trains Luke (see “Ben Kenobi”). As Force value increases, new actions can be performed/resisted (see below). | Unique characters (SWLegends) are the only ones who can access force powers  There are currently no other ways to change force values |
| Lightsabres | This entity serves no purpose to players with Force < 6. Force level is retrieved from SW Legend (via SWActor). | Player needs to be changed to SWLegend, assuming any given playable character will be a legend. Supports future changes for interchange in player control |
| Ben Kenobi | Ben trains Luke to increment his Force value. Luke must call a RequestTrain() method, but Luke must be next to Ben for this to occur. | Future changes to player control may require the accessibility of this method to change |
| Droids | Operate very similarly to present Tusken Raiders, with additional “follow” behaviour. Damage taken in Badlands is determined by droid object condition, calling it’s current position.  Different Droids may move differently (Patrol, Static, Random)  Droids become immobile when their hitpoints are too low (instead of dying). At this point the can be disassembled, (ie pick up parts) or repaired (use parts). | Droid location is relative to the SWActor that it is designed to follow. Using the the ‘follow’ action and and internal method to detect the position of a droid,this will provide the base for many rules of the areas a droid may enter (i.e. Badlands) |
| Healing | 'Regenerate' method (SWActor) will take a canteen (or Oil Can) capacity as the parameter and add this value to the Actor's hit point value. Return type 'int' is remainder from hit points to keep within Canteen (or Oil Can).  Oil is finite, and can only be used to heal droids.  Heal action is added and allows SWActor to ‘heal’ Droids by the ‘use’ action with an oil can. | The implementation of the Heal method was a relatively easy action to include. However changes to the SWActor class to allow this method to work as expected may have its challenges as we progress into the next assignment. |

-**The Force**.

The Force is only used by unique characters in the universe

Hence. the Force is an integer value contained in SWLegend  
It will only be available to Legendary characters

It is a value from 0 to 11.

SWLegend will give a default of 0, characters can be given initial value

Luke will start with 3

When Ben 'trains' Luke, increment Force

Training to 'unlock' the next ability will give new powers

Currently no other way to change force values, once instantiated

Force Levels:

0 - 2

 - No sabre

 - Can be controlled

3 -5

 - No Sabre

 - Can't be conrolled

6 - 8

 - Sabre use

 - Can't be controlled

9 - 11

 - Sabre use

 - Can control weak minds  
  
**- LightSabers**

Entity, can be picked up by any player

Option to use it for attacks does not exist for non-force players

Completely useless without Force > 3  
  
- Method within object to retrieve force level from SWActor -> SWLegend,  
   Create an exception to identify whether SWActor is or is not a legend.

- Player has been changed into a SWLegend since we can expect that   
   a given player will be a Legend and can support the idea of a   
   Player choosing their own legend in future changes.

-**Ben Kenobi**  
Training Luke has the effect of raising his force ability so that he can wield a   
Lightsabre.  
  
**- Droids**In short - droids have almost the same qualities as a Tusken Raider. However,  
droids have owners; they follow their owners around but cannot move in the   
Badlands since they will lose health each move. This is done by a condition   
within the droid object that calls upon it's current location.  
  
-- There are different types of droids with different patterns. Some will Patrol.  
  
Droids cannot die but become immobile and to regain health a droid must use   
oil (or if someone uses oil on them).  
  
Immobile droids can be disassembled into parts or can be repaired by   
using parts. Only some people know how to repair immobile droids. This is   
done by 'Disassembling' the droid.  
  
**- Healing**Drinking from the canteen will heal the player.  
SWActor will include the 'regenerate' method that will take a canteen (or   
Oil Can) capacity as the parameter and add this value to the Actor's  
hit point value. Return type 'int' is remainder from hit points to keep within   
Canteen (or Oil Can)   
  
'Pouring' oil on a droid will regenerate it's health.   
Oil is almost identical to canteen except that it can only be applied to droids  
- An oil can will have a limited value of capacity that once emptied will deplete  
   entirely.   
**-** The action to heal was added to Actions and should allow an Actor to 'heal'   
    a droid by the 'Use' of an Oil Can on the droid Actor to regenerate health.